

Supplemental Second Preliminary Amendment in Reissue Application For U.S. Patent 6,303,271
Serial No. 10/686,516
Appendix B – Page 1 of 7

APPENDIX B – Unmarked Listing of All Pending Claims

1. (Amended) A method for preparing a printing form, the method comprising:
coating a layer of a radiation sensitive ink on a lithographic support having a hydrophilic surface layer to form an ink coating,
imaging the ink coating by laser means to form exposed areas and unexposed areas of the ink coating, and
acting on the support with aqueous covered dampening rollers to remove the unexposed areas of the ink coating thereby revealing the hydrophilic surface of the support and leaving an oleophilic image formed from the exposed areas of the ink coating,

in which:
the laser means emits in the visible or infra-red region of the spectrum;
the ink comprises a radiation absorbing compound;
the radiation absorbing compound is a phthalocyanine pigment; and
the ink additionally comprises an infra-red absorbing dye.
2. (Amended) The method of claim 1 in which the laser means emits in the infra-red region of the spectrum.
3. (As Issued) The method of claim 1 in which the dampening rollers are covered with lithographic fountain solution.
4. (As Issued) The method of claim 1 in the surface of the lithographic support is anodized aluminum, chromium, or a plastic material treated to render it hydrophilic.
5. (As Issued) The method of claim 1 or claim 3 in which the lithographic support is a sleeve or cylinder that fits onto the printing press.
6. (As Issued) The method of claim 1 or claim 3 in which the method is carried out in situ in a printing press.

Supplemental Second Preliminary Amendment in Reissue Application For U.S. Patent 6,303,271
Serial No. 10/686,516
Appendix B - Page 2 of 7

7. (As Issued) The method of claim 1 or claim 3 in which the ink is sensitive to visible radiation.
8. (As Issued) The method of claim 1 or claim 3 in which the ink is sensitive to infra-red radiation.
9. (Amended) The method of claim 8 in which the laser means emits radiation having a wavelength above 600 nm.
10. (As Issued) The method of claim 1 in which the ink comprises a radiation sensitive resin.
11. (As Issued) The method of claim 10 in which the radiation sensitive resin hardens or crosslinks on exposure to radiation.
12. (As Issued) The method of claim 11 in which the resin is an acrylate resin.
13. (As Issued) A method of printing using the printing form prepared as described in claim 12 in which the same radiation sensitive ink is used in the coating on the hydrophilic support as is used in the printing.
14. (As Issued) The method of claim 1 in which the ink comprises a polymerization initiator.
15. (As Issued) The method of claim 14 in which the polymerization initiator is photolytically decomposed on exposure to suitable radiation.
16. (As Issued) The method of claim 14 in which the polymerization initiator is thermally decomposed on exposure to suitable radiation.
17. (As Issued) The method of claim 1 or claim 3 in which means are present in the ink-train to coat a predetermined thickness of ink onto the hydrophilic surface.
18. (As Issued) The method of claim 17 in which details of the predetermined thickness are fed directly into a laser imaging head which is programmed to adjust incident power and scanning speed to provide the optimum cure and imaging resolution.

Supplemental Second Preliminary Amendment in Reissue Application For U.S. Patent 6,303,271
Serial No. 10/686,516
Appendix B - Page 3 of 7

19. (As Issued) The method of claim 17 in which a desired run length is predetermined and the thickness of the ink coated is determined according to the desired run length.
20. (As Issued) A method of printing using the printing form prepared as described in claim 1 in which the same radiation sensitive ink is used in the coating on the hydrophilic support as is used in the printing.
21. (As Issued) The method of claim 20 in which the dampening rollers are covered with lithographic fountain solution, the lithographic support is a sleeve or cylinder that fits on to a printing press, and the method is carried out in situ in a printing press.
22. (As Issued) The method of claim 21 in which the ink comprises a radiation sensitive resin that hardens or crosslinks on exposure to radiation.
23. (As Issued) The method of claim 22 in which the radiation sensitive resin is an acrylate resin.
24. (As Issued) The method of claim 1 in which the radiation absorbing dye is selected from the group consisting of dyes of the squarylium, cyanine, merocyanine, indolizine, pyrylium, and metal dithiolene classes.
25. (Amended) A method for printing using a printing form, the method comprising:
 - coating a layer of a radiation sensitive ink on a lithographic support having a hydrophilic surface layer to form an ink coating,
 - imaging the ink coating by laser means to form exposed areas and unexposed areas of the ink coating,
 - forming the printing form by removing the unexposed areas of the ink coating thereby revealing the hydrophilic surface of the support and leaving an oleophilic image formed from the exposed areas of the ink coating, and
 - printing using the printing form;

in which:

 - the laser means emits in the visible or infra-red region of the spectrum;
 - the same radiation sensitive ink is used in the coating on the hydrophilic support as is

Supplemental Second Preliminary Amendment in Reissue Application For U.S. Patent 6,303,271
Serial No. 10/686,516
Appendix B – Page 4 of 7

used in the printing; and

a desired run length for the printing is predetermined and the thickness of the ink coated is determined according to the desired run length.

26. (As Issued) The method of claim 25 in which the ink comprises a radiation absorbing compound.
27. (As Issued) The method of claim 26 in which the radiation absorbing compound absorbs radiation having a wavelength above 600 nm.
28. (Amended) The method of claim 25 in which the laser means emits in the infra-red region of the spectrum.
29. (As Issued) The method of claim 28 in which the ink additionally comprises an infra-red absorbing dye.
30. (As Issued) The method of claim 25 or claim 29 in which the lithographic support is a sleeve or cylinder that fits onto a printing press.
31. (As Issued) The method of claim 25 or claim 29 in which the method is carried out in situ in a printing press.
32. (As Issued) The method of claim 31 in which the ink comprises a radiation absorbing compound.
33. (As Issued) The method of claim 31 in which:
 - the unexposed areas of the ink coating are removed by acting on the support with aqueous covered dampening rollers of the printing press;
 - the dampening rollers are covered with lithographic fountain solution;
 - the lithographic support is a sleeve or cylinder that fits onto the printing press, and
 - the printing press comprises an ink-train and means are present in the ink-train to coat a predetermined thickness of ink onto the hydrophilic surface.

Supplemental Second Preliminary Amendment in Issue Application For U.S. Patent 6,303,271
Serial No. 10/686,516
Appendix B - Page 5 of 7

34. (As Issued) The method of claim 25 or claim 29 in which the radiation sensitive ink comprises carbon black.
35. (As Issued) The method of claim 25 or claim 29 in which the unexposed areas of the ink coating are removed by acting on the support with aqueous covered dampening rollers of a printing press.
36. (As Issued) The method of claim 35 in which the dampening rollers are covered with lithographic fountain solution.
37. (Added and Amended) A method for preparing a printing form, the method comprising:
- a) providing a polymerizable radiation-sensitive composition comprising a resin and a radiation-absorbing material;
 - b) applying a coating of the radiation-sensitive composition to a lithographic support having a hydrophilic surface;
 - c) imagewise exposing the coating to infrared radiation using an infrared laser to produce exposed areas and unexposed areas of the coating; and
 - d) on a printing press, acting on the coating to remove the unexposed areas of the coating, thereby revealing the hydrophilic surface of the support and leaving an oleophilic image formed from the exposed areas of the coating.
38. (Added) The method of claim 37, wherein the resin comprises an acrylate resin.
39. (Added) The method of claim 38, wherein the acrylate resin includes a polyether acrylate resin, an epoxy acrylate resin, an alkyl acrylate resin, or a mixture thereof.
40. (Added) The method of claim 37, wherein the radiation-absorbing material is an infrared-absorbing dye.
41. (Added) The method of claim 40, wherein the infrared-absorbing dye is a squarylium dye, cyanine dye, merocyanine dye, indolizine dye, pyrylium dye, or metal dithiolen dye.
42. (Added) The method of claim 37, wherein the radiation-absorbing material is an infrared-absorbing pigment.

Supplemental Second Preliminary Amendment in Reissue Application For U.S. Patent 6,303,271
Serial No. 10/686,516
Appendix B – Page 6 of 7

43. (Added) The method of claim 42, wherein the infrared-absorbing pigment is carbon black.
44. (Added) The method of claim 37, wherein the radiation-sensitive composition further comprises a colorant.
45. (Added) The method of claim 44, wherein the colorant is a pigment.
46. (Added) The method of claim 44, wherein the colorant is carbon black.
47. (Added) The method of claim 37, wherein the radiation-sensitive composition further comprises a reactive diluent.
48. (Added) The method of claim 47, wherein the reactive diluent is styrene.
49. (Added) The method of claim 47, wherein the reactive diluent is methyl acrylate.
50. (Added) The method of claim 37, wherein the radiation-sensitive composition further comprises a photopolymerization initiator.
51. (Added) The method of claim 37, wherein the step of applying a coating includes applying the radiation-sensitive composition at a predetermined thickness.
52. (Cancelled)
53. (Added) The method of claim 37, wherein steps b) through d) are done on-press.
54. (Added) The method of claim 37, wherein steps c) through d) are done on-press.
55. (Cancelled)
56. (Added) The method of claim 37, wherein the step of acting on the coating includes contacting the coating with aqueous covered dampening rollers.
57. (Added) The method of claim 37, wherein the step of acting on the coating includes contacting the coating with a fountain solution.

Supplemental Second Preliminary Amendment in Issue Application For U.S. Patent 6,303,271
Serial No. 10/686,516
Appendix B – Page 7 of 7

58. (Added) The method of claim 37, wherein the radiation-sensitive composition is a printing ink.

59. (Added and Amended) A method for printing, comprising:

- a) providing a polymerizable radiation-sensitive composition comprising a resin and a radiation-absorbing material;
- b) applying a coating of the radiation-sensitive composition to a lithographic support having a hydrophilic surface;
- c) imagewise exposing the coating to infrared radiation using an infrared laser to produce exposed areas and unexposed areas of the coating; and
- d) on a printing press, acting on the coating to remove the unexposed areas of the coating, thereby revealing the hydrophilic surface of the support and leaving an oleophilic image formed from the exposed areas of the coating;
- e) contacting the oleophilic image with a printing ink; and
- f) imagewise transferring the printing ink from the oleophilic image to a printing substrate.

60. (Added) The method of claim 59, wherein steps b) through f) are done on-press.

61. (Added) The method of claim 59, wherein steps c) through f) are done on-press.

62. (Cancelled)

63. (Added) The method of claim 59, wherein the radiation-sensitive composition is a printing ink.

64. (Added) The method of claim 63, wherein the radiation-sensitive composition is the same printing ink as is used in step e).

65. (Added) The method of claim 59, further comprising the step of removing the oleophilic image from the lithographic support after a print run has finished.

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